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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/756,799	01/14/2004	3662	0.00	RANN-0017	2	62	2

CONFIRMATION NO. 1511

FILING RECEIPT



OC000000012409729

Robert Platt Bell
 Registered Patent Attorney
 8033 Washington Road
 Alexandria, VA 22308

Date Mailed: 04/22/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

Applicant(s)

Alexander E. Smith, McLean, VA;
 Jonathan C. Baldwin, Alexandria, VA;

Domestic Priority data as claimed by applicant

- This application is a CIP of 10/638,524 08/12/2003 *RANN-0019*
 (1) which is a CON of 09/516,215 02/29/2000 PAT 6,633,259 * *RANN-0005*
 which claims benefit of 60/123,170 03/05/1999 → *not printed on face of patent* *file COC*
 This application 10/756,799 ✓
 is a CIP of 10/319,725 12/16/2002 ✓
 which claims benefit of 60/343,237 12/31/2001 ✓
 This application 10/756,799 ✓
 (2) is a CIP of 10/751,118 01/05/2004 * *115 ← and Spec* *PTO issued 2 #s!*
 which claims benefit of 60/440,618 01/17/2003 *(RANN-0012)*
 This application 10/756,799 ✓
 (3) is a CIP of 10/743,012 12/22/2003 * *743,012 type* *RANN-0015*
 and is a CIP of 10/457,439 06/10/2003
 (*)Data provided by applicant is not consistent with PTO records.

Foreign Applications

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Serial No. 10/756,799

PATENT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Alexander E. Smith et al.	Docket No.: RANN-0017 RPB REF: RANN-0017
Serial Number: 10/756,799	Art Unit: 3662
Filing Date: January 14, 2004	Examiner: UNASSIGNED
Title: Minimum Safe Altitude Warning	

REQUEST FOR CORRECTED FILING RECEIPT

Honorable Commissioner of
Patents and Trademarks
Washington, D.C. 20231

Sir:

Applicant respectfully requests that the following information be corrected on the Filing Receipt for the above-captioned application and a new Filing Receipt be issued.

There are FOUR (4) errors in the Priority Claim as noted in the filing receipt. TWO (2) of these errors are on the part of the Patent Office and ONE (1) is a typographical error made by applicant. The last is a correction needed as the Serial Number of the case was not available at the time of filing.

For the Examiner's convenience, a copy of the filing receipt is attached, numbering these errors 1-3 corresponding to the notes below.

Please correct these errors as follows:

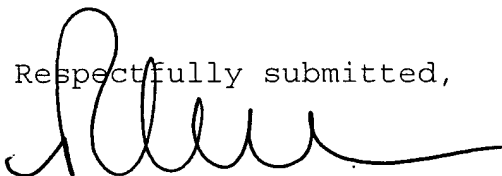
1. The filing receipt claims error in the priority claim from co-pending application 10/638,524, which in turn claims priority from 09/516,215 (now U.S. Patent 6,633,259) which in turn claims priority from Provisional Application 60/123,170. Enclosed (Labeled ITEM #1) is the cover page of that Patent, clearly showing it claims priority from provisional 60/123,170. Also enclosed is a published copy of application 10/638,524 showing the priority claim to 09/516,215. Thus, the priority claim is correct. Please remove the asterix (*) regarding this item.

2. The USPTO stated that the serial number of RANN-0012 was 10/751,118 on the early serial number card (copy enclosed). But, for some reason, on the filing receipt, the number changed to 10/751,115! Enclosed are copies of the Early Serial Number card and filing receipt in that co-pending case. Enclosed herewith is a Preliminary Amendment correcting this number in the Specification. Note that the DECLARATION submitted herewith in a RESPONSE TO NOTICE TO FILE MISSING PARTS also corrects this error. Applicant has inquired of the USPTO why two serial numbers were listed for one application for RANN-0012, but has yet to receive a reply.

3. Applicant made a typographical error in listing the serial number of RANN-0015. The correct number is 10/743,042. Again, applicant has corrected this error in a preliminary amendment. Please correct the priority claim in the filing receipt as well.

4. Applicant also claimed priority from a Provisional Patent Application whose Serial Number was UNASSIGNED at the time of filing the present application. Applicant has since received the serial number of that case, which is 60/534,706, filed on January 8, 2004. Please correct the filing receipt to reflect this priority claim.

Applicant appreciates that the priority claim in the present application is somewhat complex, and applicant appreciates the OIPE Examiner's patience in resolving this matter. If there are questions regarding this application, the OIPE Examiner is requested to call the undersigned at (703) 768-0340.

Respectfully submitted,


Robert P. Bell
Registration Number 34,546

Robert Platt Bell
Registered Patent Attorney
8033 Washington Road
Alexandria, VA 22308

(703) 768-0340

June 7, 2004

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US 20040032367A1

RAN-0019

(19) **United States**(12) **Patent Application Publication** (10) Pub. No.: **US 2004/0032367 A1**

Smith et al.

(43) Pub. Date: **Feb. 19, 2004**(54) **METHOD AND APPARATUS FOR IMPROVING THE UTILITY OF A AUTOMATIC DEPENDENT SURVEILLANCE**

Publication Classification

(51) Int. Cl.⁷ G01S 3/02

(52) U.S. Cl. 342/456

(76) Inventors: **Alexander E. Smith, McLean, VA (US); Carl Evers, Rockville, MD (US)**

Correspondence Address:
Robert Platt Bell
8033 Washington Road
Alexandria, VA 22308 (US)

(21) Appl. No.: **10/638,524**(22) Filed: **Aug. 12, 2003**

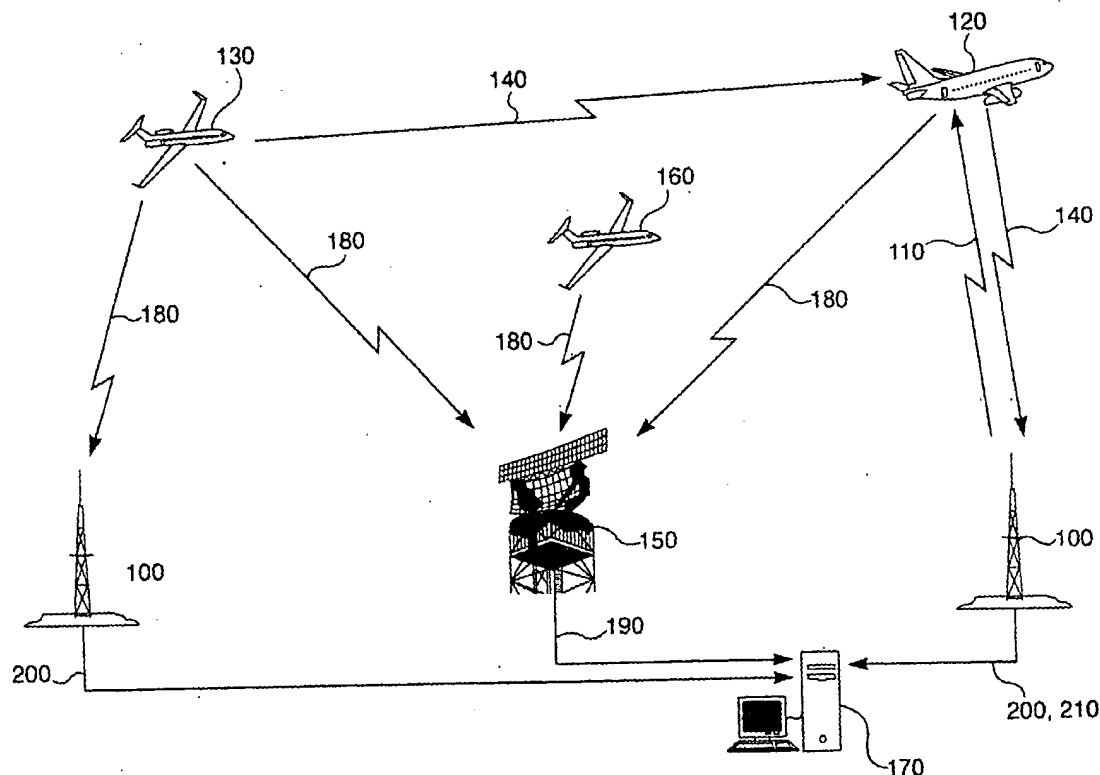
Related U.S. Application Data

(63) Continuation of application No. 09/516,215, filed on Feb. 29, 2000, now Pat. No. 6,633,259.

(60) Provisional application No. 60/123,170, filed on Mar. 5, 1999.

(57) **ABSTRACT**

The surveillance system provides a means to augment Automatic Dependent Surveillance-Broadcast (ADS-B) with "look alike ADS-B" or "pseudo ADS-B" surveillance transmissions for aircraft which may not be ADS-B equipped. The system uses ground based surveillance to determine the position of aircraft not equipped with ADS-B, then broadcasts the identification/positional information over the ADS-B data link. ADS-B equipped aircraft broadcast their own position over the ADS-B data link. The system enables aircraft equipped with ADS-B and Cockpit Display of Traffic Information (CDTI) to obtain surveillance information on all aircraft whether or not the proximate aircraft are equipped with ADS-B.





US006633259B1

(12) **United States Patent**
Smith et al.

(10) **Patent No.:** **US 6,633,259 B1**
(45) **Date of Patent:** **Oct. 14, 2003**

(54) **METHOD AND APPARATUS FOR IMPROVING UTILITY OF AUTOMATIC DEPENDENT SURVEILLANCE**

4,782,450 A 11/1988 Flax

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

(75) **Inventors:** **Alexander E. Smith, McLean, VA (US); Carl Evers, Rockville, MD (US)**
(73) **Assignee:** **Rannoch Corporation, Alexandria, VA (US)**

JP	6-342061 A	12/1994
JP	8-146130 A	5/1996
JP	9-119983 A	11/1996
JP	9-288175 A	11/1997

OTHER PUBLICATIONS

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

AirScene, The complete Air Traffic Picture in Real Time, www.airscene.com, Rannoch Corp., Alexandria, Virginia, undated.

(21) **Appl. No.:** **09/516,215**

(List continued on next page.)

(22) **Filed:** **Feb. 29, 2000**

Primary Examiner—Dao Phan

(74) *Attorney, Agent, or Firm*—Robert Platt Bell

Related U.S. Application Data

(60) Provisional application No. 60/123,170, filed on Mar. 5, 1999.

(51) **Int. Cl.** **G01S 3/02**
(52) **U.S. Cl.** **342/456; 342/455**
(58) **Field of Search** **342/25, 36, 387, 342/455, 456, 457; 701/120**

(57) **ABSTRACT**

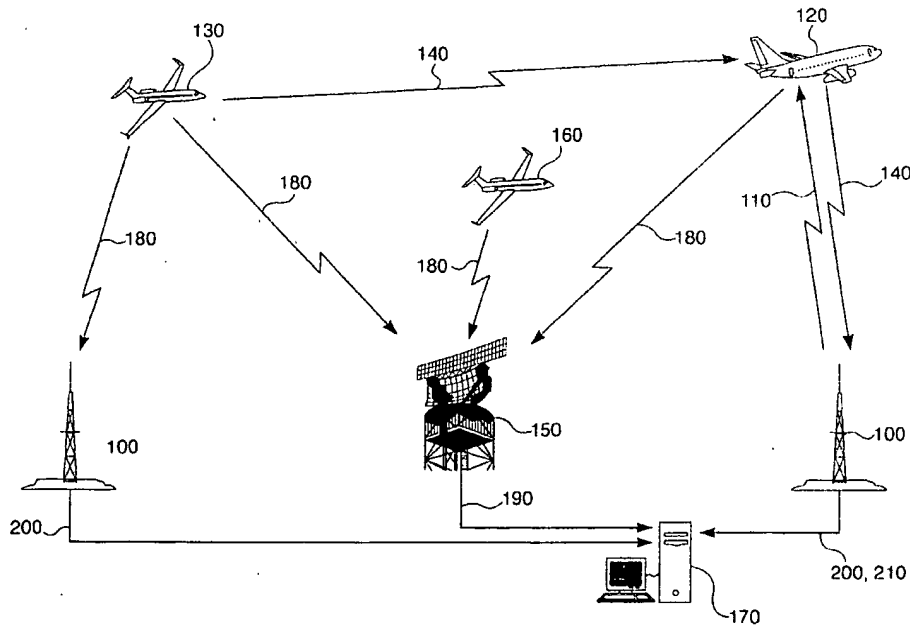
The surveillance system provides a means to augment Automatic, Dependent Surveillance-Broadcast (ADS-B) with "look alike ADS-B" or "pseudo ADS-B" surveillance transmissions for aircraft which may not be ADS-B equipped. The system uses ground based surveillance to determine the position of aircraft not equipped with ADS-B, then broadcasts the identification/positional information over the ADS-B data link. ADS-B equipped aircraft broadcast their own position over the ADS-B data link. The system enables aircraft equipped with ADS-B and Cockpit Display of Traffic Information (CDTI) to obtain surveillance information on all aircraft whether or not the proximate aircraft are equipped with ADS-B.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,705,404 A	12/1972	Chisolm
4,167,006 A	9/1979	Funatsu et al. 343/6.5 LC
4,196,474 A	4/1980	Buchanan et al.
4,229,737 A	10/1980	Heldwin et al.
4,454,510 A	6/1984	Crow
4,524,931 A	6/1985	Nilsson
4,688,046 A	8/1987	Schwab

20 Claims, 4 Drawing Sheets



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he United States Patent

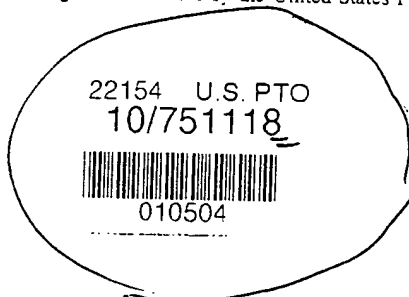
PTO
18

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Alexander E. Smith	Docket No.: RANN-0012 RPB REF: RANN-0012
Serial Number: UNASSIGNED	Art Unit: UNASSIGNED
Filing Date: January 5, 2004	Examiner: UNASSIGNED
Title: Method and Apparatus to Correlate Aircraft Flight Tracks and Events with Relevant Airport Operations Information	

Please retain this card for early Serial Number. Thank You.

The Above-captioned application has been assigned the following Serial Number by the United States Patent & Trademark Office:



In re	Serial	Filing	Title
Alexa			Oper

Note
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on Early Ser #
Card!
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1TSM #2

RANN-0012



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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/751,115	01/05/2004	3662	0.00	RANN-0012	9	44	4

Robert Platt Bell,
 8033 Washington Road
 Alexandria, VA 22308

USPTO changed
 Ser. # !

CONFIRMATION NO. 1363

FILING RECEIPT



OC000000012326332

Date Mailed: 04/09/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

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 which is a CON of 09/516,215 02/29/2000 PAT 6,633,259
 which claims benefit of 60/123,170 03/05/1999
 This application 10/751,115
 is a CIP of 10/319,725 12/16/2002
 and claims benefit of 60/440,618 01/17/2003

Foreign Applications

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title

Method and apparatus to correlate aircraft flight tracks and events with relevant airport operations